

REMARKS

The rejection of Claims 1, 3, and 5-7 under 35 U.S.C. § 102(b) over Uraki et al is respectfully traversed.

The claimed invention is a process for preparing an aqueous dispersion of pigment-containing particles, in which an organic solvent solution of a polymer and water, is first subjected to a solvent removal process, now recited as by distillation under reduced pressure, then subjected to a dispersion treatment step (e.g., high-pressure homogenization). The size of the polymer particles of the resulting dispersion is determined by the dispersion treatment conditions (specification at page 10, line 7 to page 11, line 4). Applicants have found that removing the solvent before dispersing the polymer is advantageous for a number of reasons, including, for example, increasing safety because workers are not exposed to solvent vapors during the dispersion process, and eliminating the need for expensive explosion-proof dispersion devices (specification at page 3, lines 1-15).

Uraki et al describes a quite different process for preparing an aqueous dispersion of a polymer and a pigment, in which the polymer particles are formed and dispersed *prior* to removal of the organic solvent. For example, Example 4 of Uraki et al, cited by the Examiner, describes first “kneading” a mixture of copper phthalocyanine pigment with an acrylic “oligomer” and diethylene glycol (column 10, lines 50-62). Uraki et al clearly describes carrying out “kneading” (i.e., pulverizing the organic pigment into primary particles) before dispersing the kneaded mixture in water, and *subsequently* removing the “water-soluble solvent” (column 5, lines 44-54). Thus Uraki et al describes a different process in which the solvent is removed *after* forming and dispersing the polymer particles, whereas in the claimed process, the solvent is removed *before* the dispersion step (i.e., in which the polymer particles are formed). Furthermore, as discussed above, the claimed process offers significant advantages over that of Uraki et al.

Applicants note further that the claimed process provides a dispersion having significantly improved properties compared to dispersions prepared by a process in which the solvent is removed after dispersing the polymer. For example, Comparative Example 1 of Table 1 at page 24 of the specification shows that inks prepared by removing the organic solvent after dispersing the polymer have significantly poorer properties and dispersion stability compared to inks prepared according to the claimed process. Accordingly, the present application shows that the method of preparing a dispersion or ink significantly affects the properties of the dispersion or ink, and that the claimed process provides significantly improved properties compared to dispersions and inks prepared by a conventional process.

Notwithstanding the above-discussed differences between the present invention and Uraki et al, note that the claims now require removal of the organic solvent by distillation under reduced pressure. The only disclosure in Uraki et al regarding removal of a solvent is by washing with water. See, for example, Example 1 at column 9, lines 17-19. The Examiner points to Example 4 which, it is noted, is treated to remove solvent by washing as well (column 10, lines 60-61; "Then, the resultant mixture was treated in the same manner as Example 1 . . . .")

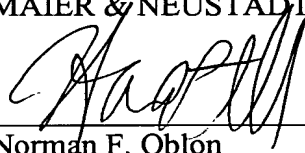
For all the above reasons, it is respectfully requested that the rejection over Uraki et al be withdrawn.

Application No. 09/904,887  
Reply to Office Action of August 25, 2003

Applicants gratefully acknowledge the Examiner's allowance of Claims 2 and 4.  
Nevertheless, Applicants respectfully submit that all the present claims are now in condition  
for allowance. Early notification thereof is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



---

Norman F. Oblon  
Attorney of Record  
Registration No. 24,618

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 08/03)

Harris A. Pitlick  
Registration No. 38,779